AF-1 / IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

First Named Inventor : Yukiko Kubota	Appeal No. _____
Appln. No. : 10/650,302	
Filed : August 28, 2003	Group Art Unit: 1773
For : HIGH MOMENT DIRECTIONALLY TEXTURED SOFT MAGNETIC UNDERLAYER IN A MAGNETIC STORAGE MEDIUM	Examiner: Holly C. Rickman
Docket No.: S01.12-0965/STL 11036.00	

REPLY FOR APPELLANT

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I HEREBY CERTIFY THAT THIS PAPER IS BEING SENT BY U.S. MAIL, FIRST CLASS, TO MAIL STOP APPEAL BRIEF-PATENTS, THE COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450, THIS

31 DAY OF January, 2006.

PATENT ATTORNEY

Sir:

This is a REPLY in response to the EXAMINER'S ANSWER dated December 20, 2005.

ARGUMENT IN REPLY TO EXAMINER'S ANSWER

The Examiner argued that a mention of CoFe in a prior art reference (Carey et al.) inherently satisfies the claim limitation of "a magnetic moment greater than 1.7 Tesla" in a magnetic material since Applicant teaches using this same magnetic material composition. The Examiner also argues that applicant's statement in the specification "FeCo alloys exhibit the largest magnetic moment, at least 2.4 Teslas, among known materials in the bulk phase." supports the Examiner's position.

It is applicant's contention that the Examiner has taken a correct proposition ("every magnetic alloy composition inherently has a measurable magnetic moment") and stretched this correct proposition completely beyond its correct meaning into an

incorrect meaning, namely "every magnetic alloy composition has a measurable magnetic moment that has an inherent or fixed value for that particular magnetic alloy composition." It is known, however, by those skilled in the art that magnetic moment of a magnetic alloy does not have an inherent, fixed value, but instead can take on a value that can be varied by heat treatment.

Applicant provided the Examiner (in applicant's Amendment of January 4, 2005) with an excerpt from Electronic Designer's Handbook that stated at note 3, page 2-97, that:

> 3. For optimum magnetic properties the materials must be carefully heat-treated after fabrication. This generally involves annealing in a controlled atmosphere (N2=nitrogen, H2=hydrogen) and controlled cooling (Q=quenching, C=controlled cooling rate) frequently in the presence of a magnetic field.

The note quoted above refers to a table 2.15 titled "Properties of Soft Ferromagnetic Materials" and specifically to a column in this table showing annealing temperatures. Applicant has thus met its burden of proof that a particular numeric value of magnetic moment is not inherent to any particular alloy composition, but instead varies as a function of a history of heat treatment (annealing) of such alloy.

When the above-cited reference was brought to the attention of the Examiner, the Examiner argued (on page 4 in the office action of April 4, 2005) that "Applicant's arguments and the reference cited therein do not address the specific magnetic property set forth in the claims." Applicant responded to this by providing Fig. 10.2 in Introduction to Magnetic Materials which specifically illustrates an example that a particular magnetic alloy composition can have a varying magnetic moment depending on heat treatment. The specific magnet property "magnetic moment" is shown in Fig. 10.2. The Examiner's objection to addressing a particular magnetic property was thus traversed by presentation of

the example in Introduction to Magnetic Materials, in combination with the Electronic Designer's Handbook which shows such an example is generally applicable to soft magnetic alloys. The table in Electronic Designer's Handbook further specifically lists (item 27 in the table) "Cobalt-Iron", which is FeCo (also called CoFe), and lists one annealing temperature.

Now in the Examiner's Reply Brief, the Examiner objects to the example shown in Introduction to Magnetic Materials simply because it does not happen to be the same alloy that is in the prior art reference. FIG. 10.2 illustrates, by example, that magnetic alloys generally have varying magnetic moments that can be adjusted by heat treatment. The Examiner is inappropriately requesting the applicant to demonstrate specifically for a particular soft magnetic alloy that which has already been shown to be known generally for soft magnetic alloys.

The Examiner has introduced no evidence that rebuts evidence relied on by the applicant that demonstrates that a particular numeric value of magnetic moment is not inherent, but is instead variable for a particular soft magnetic alloy. The Examiner has also introduced no argument that Carey teaches or suggests annealing to adjust the magnetic moment above 1.7 Teslas.

The applicant has entered substantial evidence demonstrating that a particular value of magnetic moment is not inherent to a particular soft magnetic alloy. The Examiner has entered no evidence that tends to rebut the evidence, nor any scientific argument or explanation as to why the evidence entered is not considered convincing.

Processes for annealing of magnetic alloys to adjust magnetic material properties (including magnetic moment) are known to those skilled in the art. Selecting an annealing temperature to increase magnetic moment to 1.7 Teslas (as disclosed in applicant's specification) or above can be done by a person skilled in the art without undue experimentation. Examples of

suggested anneal temperatures are listed in the table (mentioned above) in Electronic Designer's Handbook. Applicant's disclosure is therefore enabling.

For these reasons, the applicant believes that the Examiner's argument of "inherency" should be withdrawn, and the appealed claims should be allowed. The Examiner has not met the burden of proof required to rebut evidence submitted by the applicant on the issue of inherency. The Examiner presented no evidence that supports the Examiner's contention, and presented no argument that explains a scientific basis for the Examiner's conclusory statement on inherency.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: _____

David C. Bohn, Reg. No. 32,015
Suite 1400 - International Centre
900 Second Avenue South
Minneapolis, Minnesota 55402-3319
Phone:(612) 334-3222 Fax:(612) 334-3312